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Montana Department of
ENVIRONMENTAL QUALITY

Judy H. Martz, Governor

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ENVIRONMENTAL
PROTECTION AGENCY

JUL 16 2001

MONTANA OFFICE

July 12, 2001

Mr. Jim Harris
U.S. Environmental Protection Agency
Region 8, Montana Office
301 South Park, Drawer 10096
Helena, MT 59626-0096

RE: Petition for Controlled Groundwater Use Area at the BNSF Somers Site

Dear Mr. Harris:

The Montana Department of Environmental Quality (DEQ) has received and reviewed the Petition for Controlled Groundwater Use Area (CGA) at the BNSF Somers Site. DEQ's comments regarding this document are provided in Attachment 1.

If you have any questions, please feel free to contact me at 406-444-1414.

Sincerely,

Lisa M. DeWitt
Environmental Specialist

Cc: Mary Capdeville, DEQ Legal
Dave Smith, BNSF, 8200 E. Park Meadow Drive, Suite 8204, Lone Tree, CO 80124
Leilani Carlson, ThermoRetec, 2048 Overland Avenue, Suite 101, Billings, MT 59102



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ATTACHMENT 1. DEQ COMMENTS ON THE PETITION FOR CONTROLLED GROUNDWATER USE AREA AT THE BNSF SOMERS SITE

GENERAL COMMENTS:

1. The petition should be submitted on the petition form provided by DNRC. It should also provide the information requested in the form. Only the attachment to the petition was provided for review.
2. DNRC requires that well logs be provided for all wells within the proposed CGA boundary.
3. How will the Technical Impracticability (TI) Evaluation work in association with the CGA? At a minimum, the CGA should acknowledge that the TI Evaluation is under development, and discuss its implications and how it would be coordinated with the proposed CGA.

SPECIFIC COMMENTS:

Page 1. Section 1. Paragraph 2. Line 17. "...insofar as groundwater would be used as drinking water supply..." Clarify why only drinking water purposes is considered.

Page 1. Section 1. Paragraph 2. Line 20. Specify which DNAPL/PAH compounds are considered contaminants of concern (COCs).

Page 2. Section 1.1. Site History. Expand the site history section to more fully describe the activities that have taken place at the site, and to include a discussion of the ESD. Also, what have the groundwater treatment/treatment results been from the ongoing remediation activities? This information is necessary to substantiate whether or not the contaminant plume is expanding, stabilized, or decreasing and thus provide a basis for selecting the boundary for the CGA.

Page 3. Section 2.1. Paragraph 1. Line 13. "The low yield and high iron content of the surficial aquifer limit the quantity of water that can be extracted from the CERCLA lagoon or downgradient areas." How does the high iron content in the surficial aquifer limit the quantity of water that can be extracted? Please clarify.

Page 3. Section 2.1. Paragraph 1. The beneficial use is not based on yield or iron. ARM 17.30.1006 states that the quality of Class I groundwater must be maintained so that these waters are suitable for the following beneficial uses with little or no treatment: (i) public and private water supplies; (ii) culinary and food processing purposes; (iii) irrigation; (iv) drinking water for livestock and wildlife; and (v) commercial and industrial purposes. Class I groundwaters are those groundwaters with a natural specific conductance less than or equal to 1,000 microSiemens/cm at 25 degrees C. Please take this into consideration in the discussion of beneficial use of the surficial and bedrock aquifers.

Page 3. Section 3. Paragraph 2. Line 33. "A typical yield capacity for domestic water use is 25 gallons per minute (gpm)." On lines 47 and 48 of page 3, it appears that the 25 gpm value is the basis for stating that "...the surficial aquifer does not supply sufficient yield for domestic use." Please specify the basis for the value of 25 gpm as a typical yield capacity for domestic water use. Given that a minimum yield capacity for domestic water use for an FHA mortgage loan is 5 gpm, 25 gpm as a typical yield capacity seems high.

Page 3. Section 3. Line 41. The text states that the model used 6 to 11 gpm. Attachment I says 1 gpm was used, and only provides figures depicting results of the 1 gpm modeling exercise. Please clarify for consistency. Include the modeling results for pumping rates exceeding 6 to 11 gpm when the well goes dry; this is not discussed in the Attachment. Also, the conclusion should not be that there is not sufficient yield for domestic use but that the contamination won't migrate, since part of the petition is based on no migration.

Page 3. Section 3. Paragraph 3. Line 43. "...groundwater from the impacted area would eventually be drawn into the well after a minimum of ten to one hundred years of continuous pumping." Ten to one hundred years is an awfully large range. Modify the statement as follows: "...groundwater from the impacted area could eventually be drawn into the well after a minimum of ten years of continuous pumping."

Page 7. Section 4.5. Lines 21-22. "The boundary of the proposed CGA includes the surficial aquifer only within property owned by BNSF." Why only BNSF property. The petition needs to request closure wherever groundwater exceeds or could exceed ARARs or risk-based levels, not just BNSF property. Section 1.1 talks about wells on Sliter's property also. Is there a buffer area included in this definition for the Controlled Groundwater Area?

Page 7. Line 2. "...which increases the hydraulic head in the aquifer during high lake levels." As a hydraulic head on which aquifer? Please clarify.

Page 7. Section 4.5. Paragraph 1. Lines 22 and 23. "Given that the aquifer cannot sustain a pumping rate greater than 5 to 9 gpm..." Page 3 and the discussion provided in Attachment II state that the "surficial aquifer went dry at pumping rates exceeding 6 to 11 gpm..." Please clarify the discrepancy between the two sets of pumping rates.

Page 7. Line 25. "Well pumping would not cause contaminant migration." Isn't that one of the bases for requesting a CGA? Also, the results of the modeling in Attachment 2 indicate that migration could occur in 10 to 100 years.

Page 7. Section 5. Paragraph 1. Lines 36-37. Until the contamination has been effectively mitigated? How does the TI Evaluation fit in with this? [See also General Comment 3.]

Page 7. Section 6. Paragraph 1. Lines 42 and 43. "Water quality within the surficial aquifer is not suitable for domestic, industrial, and municipal use insofar as groundwater would be used for drinking purposes." We don't want the water used for drinking --- should we also be concerned about its use (or potential use) for irrigation or for stock water?

Page 8. Paragraph 2. "Once the site is remediated..." How does the TI Evaluation fit in to this. Does the TI in coordination with the CGA imply that the aquifer is forever closed? [See also General Comment 3.]

Figure 7. This figure depicts the proposed CGA boundaries. Also include the locations of BNSF and any other wells on this figure.

Figures. Please include contaminant concentration contour lines on the appropriate figures/maps. This information would be helpful in this document.

Attachment 2. A summary table is provided for bedrock aquifer results. Include a summary table for alluvial/surficial aquifer results.

Attachment 2. Why was $K=.8$ ft/day used in the modeling? The average K value was corrected via modeling to be .99 ft/day (3.5×10^{-4} ft/day).

Attachment 2. The text of Attachment 2 states that in a model sensitivity simulation, it was determined that 6 – 11 gpm was achievable in the alluvial aquifer. Section 3 indicates that the model showed that the wells went dry in the 6 – 11 gpm scenario. This is not reflected in the discussion in Attachment 2, nor are Figures provided for the case of 6 – 11 gpm pumping.

TYPOGRAPHICAL/GRAMMATICAL COMMENTS:

"Surficial" vs. "alluvial" aquifer. Be consistent in terminology throughout the document (i.e., use either one or the other, but not both interchangeably).

Throughout the document, change "Flathead County Department of Health" to "Flathead City-County Health Department."

Page 1. Section 1. Paragraph 1. Line 8. Add a space between "(g)" and "MCA."

Page 1. Section 1. Paragraph 2. Line 18. After "alluvial" insert "aquifer" and after "Area" delete "aquifer."

Page 2. Paragraph 1. Line 5. Insert "CGA" between "requests a" and "designation."

Page 4. Paragraph 2. Line 15. (also Page 7. Section 5. Line 2.) "an unrealistic" – replace with either "worst case" or "conservative."

Page 4. Section 4. Paragraph 2. Sentence 1. Line 25. Change to read "The documents referenced in Section 1, provide..."

Page 5. Section 4.1. Paragraph 3. Sentence 1. Line 24. Delete "It is apparent that" and begin the sentence with "While the four units"